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from the western swell ;—moreover, it stands on a bank of soundings of great extent, and has eleven feet water over it at low water spring tides : yet this always breaks in bad weather.

It is possible that Aitkins' Rock may have been a volcanic production, which has since subsided, like the Sabrina Island of the Azores ; but certainly no bank exists near any of the positions assigned to it, at the depth of one hundred and fifty to two hundred fathoms, except, indeed, those which place it on the bank which surrounds Ireland, where, according to Mr. Faulknor, it could not be, as he had no bottom with one hundred and fifty fathoms of line, at thirty fathoms distance from it.

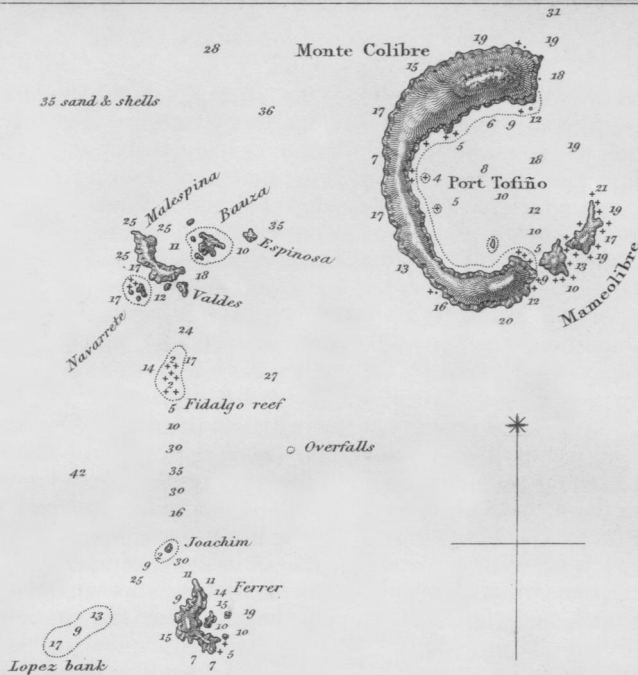
In closing this paper it may be well to state, that although the subject of it has defied our zeal, and the primary object of our pursuit has not been attained, yet the employment of the vessels has been far from useless, since there has resulted from the inquiry a partial delineation of that great bank on which Ireland and the Hebrides are based. Its western limits have been determined between the 54th and 56th degrees of latitude, which comprehend the space by which our northern traders approach the Irish Channel, and the chain of soundings cannot fail to be highly serviceable to them in making a landfall.

Our pilot, who had served nearly half a century in that capacity on the north of Ireland, assured us that there are soundings the whole way from Tory Island to Rockall. Our time and circumstances did not allow us to ascertain this ; and it is to be regretted that at a period when Great Britain has added so vastly to the stores of hydrographic knowledge, the banks which surround her own shores are many of them unknown both in quality and extent.

V.—*On the Columbretes, Volcanic Rocks near the coast of Valencia, in Spain.* By Captain Smyth, R.N., F.R.S. Read the 10th of January, 1831.

THE increased avidity with which the study of nature is now pursued, has undeniably been aided by the geographical inquiries of the last century ; and it is obvious that the same influence will still be strongly exerted in establishing a knowledge of the organic and inanimate relations of the globe. I therefore offer no excuse for drawing attention to the subject of the present communication.

Much discussion has been lately directed towards St. Paul's, Santorin, and other volcanic islands, which enclose circular bays, or gulfs, whence the theory of 'craters of elevation' has arisen ; and it may therefore be acceptable to learn that there is another, which, though almost in our neighbourhood, has not been suspected by geologists. About thirty-five miles to the eastward of the



COLUMBRETES ROCKS

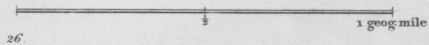
near the
Coast of Valencia,
by

Captⁿ W.H. Smyth. R.N. K.S.F. F.R.S.

Monte Colibre.

Latitude N.
Longitude S.
Variation

Scale



M^t Colibre S.W. 1¼ miles

J.&C.Walker Sculp^t

Published for the Journal of the Royal Geographical Society, by John Murray, Albemarle St^d London, Sept. 1831.

limestone range which separates the alluvial plains of Valencia and Tortosa, and in a bearing with the northern capes of Majorca, is a group of rugged rocks, sometimes termed Monte Colibre—a name adopted by d’Anville, and also by the recondite editor of the ‘Quarter Waggoner;’ but they are more generally known amongst Mediterranean navigators as the *Columbretes*, though, as no plan has hitherto been published, geographers have had very indistinct notions of their extent and geognosy. Tofiño, the author of the best description we have of the Spanish coasts, remarks—‘It is *said* that the small islands and rocks amount to fourteen;’ from whence, as well as from the erroneous position he has assigned them, his stating the bay to be on the N.E. side, and his describing the smaller islets as lying S.S.E. of the large one, we may infer that he did not personally visit them. The industrious Coronelli, in his *Isolario*, dismisses them thus:—‘Tra la Majorica, e le foci del fiume Ebro, si vede la *Mammeo-libra*, si piccola, e povera, che non havendo cos’ alcuna di considerabile, non merita altra descrittione.’

My attention was first attracted to these rocks from perceiving a xebec at anchor in the port, while we were passing them in chase of a stranger; and I then admired the picturesque forms of the broken masses, which presented the appearance of being the wrecks of a more considerable island. But on a second visit I was so struck with their peculiarities that I examined them with some interest; and although giving appellations on such a coast may seem intrusive, I was led to call the highest hill by the well known name of Monte Colibre, and also to denominate the several rocks after those Spanish officers to whom geography and science are deeply indebted, in order that future visitors may distinguish them in description.

The largest of the *Colombretes*, from its comparative magnitude, may merit the name of island. A reference to the plan will at once show how evidently it has resulted from igneous causes, and that its harbour is the mere mouth of an ancient crater, though now forming a tolerably secure anchorage for vessels, in westerly winds. Here privateers, and especially the corsairs of Barbary, have been known to lurk; and as the summit of the hill commands an extensive horizon, they have pounced upon their prey very unexpectedly. The port is somewhat more than a quarter of a mile across at the entrance; and as it forms a capacious basin, would hold several vessels, in case of need, in from five to twelve fathoms, on an indifferent bottom of mud, weed, and rocks. It is tolerably secure from all winds but those from N.E., E., and S.E.; though, in the latter case, craft might find shelter close to the *Mammeolibre*, the channel between which and the point is practicable for boats, having nowhere than

three fathoms depth. I was told, by a fisherman of Valencia, that fresh water might be obtained in small quantities, but we found none. By observations taken on Monte Colibre, the latitude of the station was in $39^{\circ} 53' 58''$ N., the longitude $0^{\circ} 44' 27''$ E. of Greenwich, and the magnetic variation was $17^{\circ} 41'$ W., in 1823.

Monte Colibre, or the north hill, is of so rounded a form as to assume the *bell-shaped* disposition incident to its affinities; a declivity dips from thence towards the middle of the island, from which there is a gradual ascent to a hilly hummock on the south giving the whole the appearance known to seamen as *saddled*. These hills are covered with an exuberance of dwarf olives, geraniums, prickly pears, myrtles, and brushwood; but every other part exhibits lavas, obsidian, and scoriæ, as obdurate as if the fires to which they owe their origin had been but lately extinguished. A few rabbits were seen, and the margin abounded with crabs and other shell-fish; but what excited the greatest surprise, and indeed is very remarkable, was, that the seamen were actually impeded in their progress with the instruments, by the number of snakes which infested the whole space. They were generally between two and three feet long, finely striated with dark zig-zag lines, on a bright yellow ground, blending whiter at the belly, and of great beauty.

At the south point of Port Tofiño are two high conical rocks of vitreous trachyte, which, to preserve Coronelli's term, I called Mammeolibre. They appear to have formed part of the continuation of the crater, from which the eastern portion has either been worn away by erosion, or has disappeared by subsidence; for there can be little doubt of its having been a complete cone when this spot was the theatre of burning eruptions. Indeed, the encroaching and destroying action of the sea is everywhere strongly attested by the figure of the shattered relics; and the overhanging precipices, with the shadows cast by a fervid sun over cavernous cliffs, enriched with the protruding faces, and surmounted by parallel strata of porphyritic conglomerate of various hues, heighten the effect of a scene which is splendid and characteristic, notwithstanding that the expanded horizon renders the foreground somewhat diminutive.

About a mile to the westward of Monte Colibre is a group of rugged rocks, of which Malaspina, the largest, is saddled in form, but of a bold and various surface; while the gentle inclination of its external flanks, as well as of those of its neighbour Bauza, together with the scarped faces of their interior cliffs to the northward, gives them also the aspect of the rent cone of a former volcano,—perhaps a parasite of the larger one.

Bearing S. 16° W., and distant three nautical miles from the

station on Monte Colibre, is Galiano, a high perforated rock resembling a ship under full sail; and several rocks and reefs stretch more than half a mile to the eastward of it, against and over which the sea breaks very heavily in gales. Nearly in mid-distance between Galiano and Malaspina lies Ferrer, a remarkable quoin-shaped phonolitic rock, with smaller ones in its vicinity; so that the Columbretes are divided into four detached clusters, with deep water in the channels between them. The approach on all sides is extremely bold, and the soundings gradual, diminishing from fifty fathoms, over a bottom of brown sand and broken shells, at three or four miles off, to forty and twenty in the passages between the rocks, except where Fidalgo, Lopez, and Luyundo reefs are placed. Even between Ferrer and Joachim, there are no less than thirty fathoms of depth.

The whole of these volcanic fragments consist of similar materials; and amongst the specimens which I brought away are compact lavas, some of which are speckled with white calcined substances, while others contain black acicular crystals, and numerous small clusters of brilliant yellow ones; the former having probably lost their water of crystallization from intense heat, and the latter been formed by the condensation of vapours in the cavities of inflated lavas, on cooling. Intermixed with the scorïæ—which are highly tinged with iron, and so cellular as to resemble coarse pumice—are numerous masses of amorphous schorl; and both hyperstone and pearlstone occur.

The geological relations of these islets, however, are not the only interesting points relating to them: their ancient nomenclature requires also some elucidation. It is known that the Greek geographers applied the name of *Ophiusa* to an Iberian island, from its abounding with serpents, and that the Romans, for the same reason, called it *Colubraria*; but the identity of the place has rather been inferred than ascertained—custom having long conferred the name on Formentera; and, to countenance the application, we have been gravely told of the myriads of snakes which have caused it to remain uninhabited. But a visit to the spot proves the misnomer; for from its population (despite of Algerine ravages) and its culture, together with the numerous vestiges of matamore granaries, it is readily seen that the present appellation has been a consequence of the excellence of its corn harvests. Iviza, or Ibiza, the *Ebusus* of Strabo, and *Ebyssus* of Ptolemy, was undoubtedly called *Pityusa major*, and Formentera *Pityusa minor*,—names which they deserve still from their resinous pine-trees; and the peculiar boast of the natives is, that no venomous reptile can live in Formentera, whether from the presence of the *semper-virens*, one of the snake-roots of antiquity, or that their earth has the quality of destroying serpents, as Pliny records that of *Ebusus* to

have done, I know not. Suffice it, that the fact wars against the French encyclopædists, and others, who have asserted this island to remain desert and uninhabited—‘à cause de la quantité extraordinaire de serpens qui s’y trouvent ;’ and where, then, are we to look for the *Ophiusa* of the ancients, but in the Columbretes?

VI.—*Account of the Island of Deception, one of the New Shetland Isles.* Extracted from the private Journal of Lieutenant Kendal, R.N., embarked on board his Majesty's sloop Chanticleer, Captain Forster, on a scientific voyage; and communicated by John Barrow, Esq., F.R.S. Read 24th January, 1831.

[THE New Shetland Isles are a cluster recently discovered, or, more correctly speaking, re-discovered, by Mr. Smith, a master in the Royal Navy. Dirck Gheritz, who commanded one of five ships which sailed from Rotterdam in 1598, to make a western passage to India, was separated from his companions off Cape Horn, and carried, by tempestuous weather, as far as latitude 64° S., where he discovered a high country, with mountains covered with snow, resembling the coast of Norway; and there can be no doubt that this was the group of islands in question. They seem to be a continuation of the Cordillera of the Andes, and Archipelago of Tierra del Fuego; being, for the most part, precisely of the same formation with the latter—their strata even inclining the same way. But the particular island here described is completely volcanic; and its circular crater bears a very striking resemblance to that of the Island of Amsterdam, or, as it is called by some, St. Paul, in the mid-ocean between the Cape of Good Hope and Australia.]

The shape of both, too, is so like that of the lagoons which are met with in nine-tenths of the numerous low coral islands that are scattered over the intra-tropical portions of the Pacific, as to give a colour to an opinion I was led to form many years ago, that these extraordinary fabrics, the creation of minute marine worms, are for the most part based on the edges of sub-marine volcanic craters, rising sufficiently near the surface to allow these creatures the requisite light and heat to carry on their wonderful operations, creating perpetually new islands. And this consideration may perhaps give additional interest to the paper immediately following that here subjoined; which, as minutely describing one of these coralline formations, is thus, in some degree, connected with the two preceding it.—JOHN BARROW.]

5th January, 1829.—The partial clearing of the fog brought to view the desolate lands of Shetland. The first that was descried was the mountainous island, the westernmost of the group, called, after its discoverer, Smith's Island; and a more dreary aspect of rugged barrenness I never beheld. It rises abruptly from the water's edge, and in the centre towers to the height of between